

Serial No. 10/749,896

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**REMARKS**

Applicants appreciate the consideration shown by the Office as evidenced by telephone calls from the Examiner on and prior to 14 June 2005. During these calls, the Examiner suggested various amendments to the claims in light of Applicants' previously submitted Response, and presented new prior art for Applicants' consideration. In this Response, Applicants have canceled claim 55 and have amended claims 33, 40, 43, 46, and 57. Applicants respectfully request reconsideration of the application by the Examiner in light of the above amendments and the following remarks.

**1. Claim Rejections**

Claim 57 has been amended to correct its dependency and to correct its antecedent basis in view of amendments made to claim 33. Applicants believe these amendments have addressed all issues pertinent to this claim and request the Examiner's reconsideration.

Claim 46 has been amended to clarify the lower bound of the thickness range recited for the first coating layer. Applicants respectfully submit that the recitation of "at least 10 micrometers" includes in the range a value of 10 micrometers.

The Examiner provided three new prior art references for Applicants' consideration:

- 1) US 3,874,901 (Rairden et al.);
- 2) US 4,933,239 (Olson et al.); and
- 3) US 4,910,092 (Olson et al.).

The claims were applied to reject independent claim 33 and at least some of its dependent claims. Applicants respectfully traverse this rejection.

Each of these references describes various protective coating systems for superalloy substrates, but none of these references teaches, suggests, or discloses "disposing a first coating layer onto [the] substrate, wherein said first coating layer comprises nickel (Ni), zirconium (Zr), and aluminum (Al)," as recited in amended claim 33 of the present invention. In '901, the first coating layer is an MCrAlY coating, where M may be Ni, cobalt (Co), and/or iron (Fe). In '239, the first coating layer is an MCrAlY coating with additions of silicon (Si) and Hafnium (Hf). In '092, the first coating layer is an MCrAlY coating. Significantly, all of the applied references are silent on the use of Zr in the first coating layer. There is no suggestion to be found in any of these references that Zr can or should be added to the first coating layer. Absent such a teaching or suggestion, Applicants respectfully submit that amended claim 33 and its dependent claims are patentably distinct from the three references provided by the Examiner.

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Claim 33 has also been amended to recite that the substrate comprises a material selected from the group consisting of a nickel-based superalloy, a cobalt-based superalloy, and an iron-based superalloy. This amendment clearly distinguishes claim 33 from Fisher et al., U.S. 6,585,864, cited in a previous Office Action (22 Feb 2005). As stated in the previous response, Fisher et al. describes a substrate comprising stainless steel and does not teach, suggest, or disclose that the coating system described therein could be successfully applied to other substrate materials. Moreover, the superalloy limitation as recited in claim 33 was recited in originally filed claims 55 and 56, now cancelled with their limitations incorporated into claim 33; this superalloy limitation of claim 56 was noted by the Examiner to be allowable subject matter in the Office Action of 22 February 2005. For these reasons, Applicants respectfully submit that claim 33, and its dependent claims, are patentably distinct from Fisher.

## 2. Conclusion

In light of the above amendments and the remarks presented herein, Applicants submit that the case is in condition for immediate allowance and respectfully request such action. If, however, any issues remain unresolved, the Examiner is invited to telephone the undersigned at the number provided below.

Respectfully submitted,



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